

chest and middle area of belly replaced by dull pale cinnamon, while that on lower aspect of the forearms and legs, very prominent in *lorentzi*, is quite absent, these parts being simply dull greyish brown. Head mixed buffy and black. Ears almost naked internally, the metentote with a few ochraceous hairs; externally they are finely clothed with whitish hairs, which extend on to the sides of the neck and form a prominent whitish patch. Limbs not very different from the body, the forearms above more cinnamon; upper surface of hands and feet like body on the metapodials, the digits dark brown.

Skull very like that of *lorentzi*, but the bullæ are less swollen. Incisors slightly smaller, so that the row of four measures about 4.2 instead of 5 mm.

Dimensions of the type:—

Head and body 187 mm.; tail 188; hind foot 39; ear 23.

Skull: condylo-basal length 46.5; zygomatic breadth 36; nasals 19.4 × 6; interorbital breadth 9.5; palatal length 25.5; maxillary tooth-row 18; length of three anterior molariform teeth 7.9.

Another much damaged skull has a condylo-basal length of 53.5 mm.

Hab. Weyland Mountains, Dutch New Guinea. Type from Mt. Kunupi. Alt. 6000'.

Type. Adult male. B.M. no. 21. 8. 1. 11. Original number 51. Collected 20th December, 1920. Four specimens.

Assuming the identity of the Goliath Mountain specimens described in 1911 with the melanistic *P. lorentzi*, the present handsome animal may be readily distinguished by the white patches behind its ears, and by the brown instead of rufous lower aspect of the forearms and thighs.

XXXV.—*Descriptions and Records of Bees.*—XCI.

By T. D. A. COCKERELL, University of Colorado.

Mesonychium dugesi, Cockerell.

Garden Cañon, Huachuca Mts., Arizona (*W. H. Mann*)
U.S. Nat. Museum.

Genus new to the United States.

Nomia (Crociaspidia) muscatensis, Cockerell.

Aden (*Muir*). Cambridge University Museum.

Nomia aurifrons, Smith.

On comparing Smith's type ♀ with the type of my *N. andrenina*, I find them identical.

Nomia exagens (Walker).

Halictus timidus, Smith, from Ceylon, is the same, as Meade-Waldo had determined from the types in the British Museum, and I can confirm.

Nomia zebrata, Cameron.

The types of *N. zebrata*, Cameron, and *N. frederici*, Cameron, in the Rothney collection at Oxford, represent the same species.

Nomia pulchriventris (Cameron).

Bingham says of *Halictus pulchriventris*, Cameron: "type (♂) in coll. Rothney." I found it there, and it is a *Nomia* with claviform abdomen; hind basitarsi yellowish white.

I also found one, marked type, in the British Museum. Anterior wing 7 mm. long, dusky, darker at apex. Hind legs simple.

Sphecodes cameronii (Bingham).

Halictus cameronii, Bingham, 1897 (*decorus*, Cameron), is a small *Sphecodes*, as shown by the type in the Rothney collection.

♀.—No caudal rima; first three abdominal segments bright chestnut; face very broad; mesothorax and scutellum shining.

India.

Sphecodes iridescens, n. n.

Sphecodes cameroni, Schulz, 1906 (*iridipennis*, Cameron). S. Africa.

Halictus kalutaræ, Cockerell.

Meade-Waldo (1916) found that *Nomia vincta*, Walker, was an *Halictus*, and placed my *kalutaræ* as a synonym. On comparing the types in the British Museum I find that they are distinct. In *kalutaræ* the sharp rugæ on anterior part of mesothorax on each side of middle line bend backward, to

meet the opposite ones and form a series of V's; this is not the case with *vinctus*. *H. kalutaræ* also has a larger head, elevated posteriorly, and sides of vertex shining (dull in *vinctus*). They are, however, allied.

Halictus matheranensis, Cameron, 1907.

H. emergendus, Cameron, 1908, is a little larger, but is the same species.

Postscutellum densely covered with pale ochreous-tinted tomentum.

India.

Halictus inoa (Cameron).

Andrena inoa, Cameron, 1904 (type, ♂, in British Museum), belongs to *Halictus*.

Face broad, with subparallel eyes; stigma and nervures bright ferruginous; middle of scutellum with moss-like bright ferruginous hair; abdominal segments with basal hair-bands.

Himalayas.

Halictus pseudopectoralis, Cockerell.

Halictus notaticollis, Friese, 1916, from Costa Rica, is a synonym. The U.S. National Museum has specimens of *notaticollis* from Friese.

Halictus oppositus (Smith).

The type (♀) of Smith's *Nomia opposita* from China, in the British Museum, is a species of *Halictus*.

Mesothorax and scutellum entirely dull. Wings brownish, first r. n. meeting second t.-c., third s.m. subquadrate, very broad above. Hind spur dentate. Entire creamy-white bands at bases of abdominal segments 2 to 4.

Halictus sepositus, sp. n.

♂ (type).—Length about 12 mm.

Slender, black; clypeus produced, convex, rugoso-punctate, glistening, entirely black except for a pair of very obscure reddish marks near apex; in lateral profile of head the clypeus is entirely out of line with eyes; malar space distinct. Head broad, oval, facial quadrangle much higher

than broad, orbits nearly parallel; front dull and granular; antennæ long, joints 4 to 9 clear ferruginous beneath; head and thorax with long, thin, pale fulvous hair; mesothorax and scutellum closely and finely punctured, somewhat glistening; area of metathorax finely rugose, posterior truncation not defined; tegulæ dark rufous, with a picæous spot. Wings faintly reddish, stigma bright ferruginous, nervures fuscous; third s.m. long, fully as broad on marginal as second; second s.m. about square, receiving r. n. beyond middle; outer r. n. and t.-c. strong. Legs black, with knees, tibiæ, and tarsi ferruginous; hind tibiæ with a very faint dusky shade posteriorly. Abdomen glistening, extremely finely punctured, hind margins of segments with dull white hair-bands.

♀.—About 12 mm. long.

Robust; hair-bands confined to sides of abdominal segments; posterior truncation of metathorax nowhere sharply defined, longitudinal striæ on each side of its median sulcus; area of metathorax with coarse rugose hide-like sculpture; clypeus shining, with large punctures, flagellum very obscurely reddish beneath; hind spur with five erect saw-like teeth; third s.m. not quite so broad on marginal as second; surface of abdomen thinly hairy, first segment shining. Wings reddened. Hind tibiæ and tarsi densely covered with fulvous hair.

Madeira (*T. V. Wollaston*). Oxford Museum.

This stands in the Wollaston collection as *H. quadristrigatus*, Latr. (which is *quadricinctus*, Fabr.), and is closely allied to that variable species, yet evidently distinct, especially by the dark clypeus in the male. It was examined years ago by E. Saunders and Vachal, and they agreed that it was distinct from *quadristrigatus*. Another female stands in the collection as *H. zebrus*, Walck.; it is not so large, the mesothorax is more finely sculptured, but the hind legs have the same fulvous hair and the same spurs. After careful comparisons I concluded that all the specimens represented a single species.

Neocorynura pubescens (Friese).

Halictus pubescens, Friese, from Costa Rica, is represented in the U.S. National Museum by material from Friese. It is identical with a *Neocorynura* from Costa Rica named years ago by Vachal, but, so far as I can find, not published.

Thorax emerald-green, the mesothorax with short moss-like

red hair ; hind spur of ♀ with very few long stout spines ; apex of flagellum bright red ; eyes deeply emarginate ; area of metathorax with very fine radiating striæ.

Agapostemon virescens (Fabricius).

The type is in the Banks collection at the British Museum, and is our common American species. The name dates from 1775, *viridulus* (Fabricius) from 1793. Moses Harris, in his 'Exposition of English Insects' (1782), figures and describes a male as *Apis vitreus*. The names of Harris have generally been ignored, but they are as valid as those of Drury, after whose work that of Harris was modelled. The binomials appear in the index.

Prosopis maderensis, sp. n.

♀.—Length about 7 mm.

Black, with a broad, elongate, pale yellow mark on each side of face, its ends rounded, the upper end level with antennæ, the lower (more mesad) above middle of clypeus ; clypeus elongate, dull, finely aciculate ; mandibles and antennæ black, scape not swollen ; thorax with very scanty white hair ; mesothorax dull, very minutely and densely punctured ; area of metathorax with irregular, rather weak, raised reticulation on basal middle, otherwise finely rugose ; tegulæ black. Wings slightly brownish, nervures and stigma piceous ; b. n. falling a little short of t.-m. ; second s.m. broad, receiving first r. n. near its base. Abdomen shining, extremely finely punctured, without hair-patches.

Madeira (*T. V. Wollaston*). Oxford Museum.

It was labelled "n. sp. allied to *signata*." It is easily known from *signata* by the delicate sculpture of the abdomen.

Allodape mixta (Smith).

The type of *Prosopis leucotarsis*, Cameron, in the Rothney collection, is an *Allodape*. I assume that Bingham is correct in referring it to the older name *mixta*, Smith.

Length about 5 mm.

Clypeus creamy white, with very small lateral face-marks next to the lateral notches in clypeal colour : tongue long, linear ; tarsi creamy white, front ones reddened ; nervures pale, stigma dark-margined.

Bombus rubriventris, Lepeletier.

At Oxford, in material belonging to the Hope collection, which had passed through the hands of Lepeletier, I found a *B. rubriventris*, probably the type. It is labelled "St. Domingue." It is a remarkable *Bombus*, black, with abdomen beyond first segment covered with very bright blood-red hair as far as end of fourth segment (red hair overlapping fifth), but black on fifth segment. Malar space moderate (rather shorter than in *brasiliensis*); ocelli small; top of head and mesothorax in front with black hair, but behind the broad band on front of mesothorax, abruptly, the short hair is dull grey; long grey hairs at sides of scutellum; pleura with pale greyish hair; anterior wing about 18 mm., dark reddish fuliginous (not so dark as in *brasiliensis*); hind tibiæ dark red, with black hair.

Euglossa analis, Westwood.

I found a specimen, evidently the type, at Oxford. Clypeus with the usual three keels; labrum &c. creamy white; dark purple-blue, apex of abdomen (beyond fourth segment) broadly and abruptly emerald-green.

Length 10 mm. or a little over.

Friese gives this as a doubtful synonym of *E. cordata* (L.), but it is evidently the prior name for *E. azurea*, Ducke.

Megachile bicolor (Fabricius).

In 1919 I published *Megachile fletcheri* from India, believing it to be closely allied to but separable from *bicolor*. Mr. T. B. Fletcher wrote that he considered it to be identical with *bicolor*, and sent for comparison both sexes from Coimbatore (*Fletcher*), Pusa, Behar (*G. D. O.*), and Chapra, Bengal (*Mackenzie*). I took these to the British Museum, and, on comparing them with the series there, could only conclude that all were one species—*M. bicolor*.

Megachile semipleata, sp. n.

♂.—Length about 10 mm.

Black, with small joints of tarsi reddened, the last bright ferruginous; antennæ entirely black; head ordinary, face and cheeks with long creamy-white hair, vertex with dark chocolate-brown hair; mesothorax glistening, closely punctured, with brownish-black hair, but other parts of thorax

with creamy-white hair; anterior tarsi simple and anterior coxæ without spines; claws bifid. Abdomen glistening, short and broad, first two segments with pale hair; segments 3 to 5 with bands of pale hair, but in front of these the hair is brown-black; appressed pale hair at base of fifth; sixth segment retracted, with thin, erect, inconspicuous hair, dullish, with minute sculpture, and with a strong depression above the keel, which is shallowly emarginate but not dentate.

Madeira (*Wollaston*). Oxford University Museum.

As E. Saunders remarked, it seems to be nearest to *M. versicolor*, Smith.

Megachile xylocopoides, Smith.

Buena Vista, Florida (*Chas. Mosier*). U.S. Nat. Museum.

Megachile hæmatopus, n. n.

Lithurgus rufipes, Smith, Cat. Hym. Brit. Mus. i. (1853) p. 145. Not *Megachile rufipes* (Fabricius).

I examined the type, from Port Natal, in the British Museum.

Mandibles mainly red; clypeus strongly transversely depressed above margin; tegulæ bright ferruginous; white pubescence in scutello-mesothoracic suture, and spots behind tegulæ; legs bright red, tarsi darkened; second abdominal segment metallic green dorsally; ventral scopa white, black on last segment and part of penultimate; abdomen short and broad; marginal cell and apex of wing fuliginous. ♀.

Lithurgus lissopoda (Cameron).

Megachile lissopoda, Cameron, 1908, is a *Lithurgus*.

Tubercle on face hardly indicated; a robust species, with very robust hind femora; hind basitarsi broad at end, the broad part exposed and shining.

Length about 11 mm.

British Museum.

Lithurgus nigricans (Cameron).

Megachile nigricans, Cameron, 1898, from Ceylon, is a male *Lithurgus*. I examined the type in Rothney collection at Oxford.

Length 11 mm.

Scutellum with much black hair; tongue and labial palpi extremely long, the tongue would reach tip of abdomen, labial palpi about 6 mm.; a polished punctureless space on each side of ocelli; flagellum remarkably short; hind tibiæ very thick; no pulvilli; b. n. falling far short of t.-m.

Lithurgus taprobanae (Cameron).

Megachile taprobanae, Cameron, 1904, from Ceylon, is represented by the ♀ type in the British Museum. It is a *Lithurgus*.

Silky white hair on clypeus and sides of face; supraclypeal area with transverse gibbous lower margin; abdomen smooth and shining, with the white hair-bands very narrow, last segment with fuscous hair.

The males placed with it, from Kandy (*R. Turner*), are *Megachile*.

Heriades spiniscutis (Cameron).

Megachile spiniscutis, Cameron (male type in British Museum), is a *Heriades* with large curved spines at sides of thorax posteriorly; pulvilli distinct; eyes slate-colour or dark grey (not green); b. n. nearly reaching t.-m.

S. Africa.

Standing next to this in the British Museum is *Megachile suavida*, Cameron, ♀. It has pulvilli, and is a *Heriades*. Ventral scopa yellowish white; b. n. meeting t.-m.; eyes lilac.

The name *M. suavida* was published by Cameron in 1908, based on a male from India.

Osmia leptodonta (Cameron).

Megachile leptodonta, Cameron, 1908, in British Museum, is an *Osmia*.

Flagellum bright red beneath; mandibles peculiar, with dense white hair at base, middle pale red, and apical margin and teeth abruptly dark; pulvilli present; abdomen more or less red along the margins before the entire white hair-bands.

Heriades pulchripes (Cameron).

Megachile pulchripes, Cameron, 1897, from India, is a *Heriades*, as shown by the ♀ type in the Rothney collection at Oxford.

Length about 6.5 mm.

Pulvilli present; basin of first abdominal segment with sharp edge; middle and hind femora and tibiæ clear chestnut-red; facial quadrangle much longer than broad, with a broad band of white pubescence at each side; stigma ferruginous.

Meade-Waldo has placed *M. elfroma* and *saphira*, Cameron, with this species in the British Museum. These are males, with abdomen curled under apically, and shining testaceous borders to the closely punctate segments; the b. n. fails to reach t.-m. The tibiæ and tarsi are mainly red in *saphira*, darker in *elfroma*, but they are certainly one species. I could not see any pulvilli in *elfroma*.

Gronoceras denticulata (Reiche).

Friese's description of the male *Megachile denticulata* in 'Das Tierreich' is quite wrong. It is a *Gronoceras*, and has very broad pale anterior tarsi. The last ventral segment has a stout truncate spine, and apex has two long curved spines and a brush of black hair. I examined specimens in the British Museum which agree with the original description and figure.

Ceratina dimidiata, Friese, 1910.

Specimens in the U.S. National Museum, received from Friese, show that this is identical with *C. azteca*, Cresson, as determined (I believe correctly) by Crawford.

Colletes dudgeonii, Bingham, 1897.

C. dentata, Cameron, 1898, is the same species. The male has a short malar space.

Colletes reticulatus (Cameron).

Andrena reticulata, Cam., and *A. saevissima*, Cam. (misprinted *sacrissima* in Bingham's work), are females of one species of *Colletes*. The malar space is about twice as broad as long; upper part of supraclypeal area highly polished. Specimens of both supposed species are in the Rothney collection at Oxford and in the British Museum.

Colletes phædra (Cameron).

Andrena phædra, Cam., is a male *Colletes*, with darker tegulæ than *reticulatus*. I decided that it was the male of *reticulatus*, but found a male placed with *saevissima* in the

British Museum a good deal larger than *phædra*, with the malar space a little broader than long (in *phædra* it is more shining and fully as long as broad). The *phædra* abdomen is more shining, with finer punctures. They agree in venation. Assuming this *sævissima* male to belong with *reticulatus*, it seems probable that *phædra* is distinct.

Andrena sodalis, Cam., published at the same time, is evidently the insect standing in the Rothney collection under a slightly modified name, *sodalis* having been earlier used by Smith. It is a *Colletes*, with the dorsal hair of thorax bright fox-red, and the first abdominal segment perhaps more distinctly punctured than in *phædra*. I believe it is conspecific with *phædra*.

Anthophora whiteheadi, Cockerell.

Yalauer Archipelago, Celebes (*Hickson*). Cambridge Museum.

A ♀ in poor condition, having been in liquid, but apparently not distinct from this Philippine species.

Chalicodoma sicula, Rossi.

El Arabah, Abydos, Upper Egypt (*Baron A. von Hügel*). Cambridge University Museum.

Lithurgus echinocacti, Cockerell.

Sabino Basin, Sta. Catalina Mts., Arizona, Aug. 30 (*C. H. T. Townsend*).

Pseudopanurgus fraterculus, Cockerell.

Sabino Basin, Sta. Catalina Mts., Arizona, Sept. 3 and 28 (*Townsend*).

Nomioides facilis (Smith).

Halictus facilis, Smith, from Malta. *Nomioides fallax*, Handlirsch.

Thygatina fumida, Cockerell.

The following note is attached to the specimens in the British Museum:—"I found these tunnelling in a bank and storing their nest with pollen. The tunnel went into the bank about 8 to 10 inches. Kandy, Ceylon, Jan. 1903. O. S. W."